



About BGAN

Launched in 2005, Inmarsat's Broadband Global Area Network (BGAN) is an L-BAND geo-stationary satellite-based broadband network. Terminals provide data rates up to 492Kbps, for access to on-demand IP broadband data, guaranteed Streaming IP data up to 650Kbps and simultaneous SMS and voice capabilities.

BGAN Radio Module

About BRM

Inmarsat's BGAN Radio Module (BRM) is a credit card-sized core module board housing a full-duplex BGAN modem which enables Inmarsat Value Added Manufacturer (VAM) Partners to integrate BGAN connectivity into their hardware. The BRM can be used with various Front End Module (FEM) and antenna configurations, and includes a RESTful command interface accessed via Ethernet.

It enables VAMs to fast-track and reduce costs for development of BGAN hardware (any Class); streamlines the Type Approval process; uses a single, standardised integrated chipset (RFIC); and can be integrated into a variety of M2M; Land; Maritime and Aero - solutions. Manufacturers are required to follow Inmarsat's Type Approval Process which validates compliance with international rules relating to RF interference and BGAN services. Due to the BRM being partially approved the process is expected to be lighter than a full development and will become faster and more cost-efficient as FEM/Antenna components are re-used.

BGAN Services Supported on the BRM

- > IP Background Data Connectivity (data rates at up to 492Kbps)
- > Streaming Data (up to 650Kbps)
- > Voice (Inmarsat VoIP service)
- > SMS
- > Remote Management



Specifications

Dimensions (mm)	85 x 53 x 10.1
Weight (g)	135
Environmental	
Operating temperature (°C)	Min: -40; Max: +75 when mounted with a 2°C per watt thermal dissipation
Humidity (%)	Min: 0; Max: 95 (at 40°C)
Cooling and Enclosure	No forced cooling required and EMI shielding/screening cans on both sides
Power	
Input voltage range (VDC)	5.25 - 5.75
Input nominal voltage (VDC)	5.5
Usage specifications	Average standby current: < 178mW (32.36mA @ 5.5V) Average Idle Current: < 0.556W (101mA @ 5.5V) Peak current operational: < 7W (1.3A @ 5.5V)
Interfaces	
4 x U.FL Connectors (RX; TX; RF Detector and GNSS)	TX: 1626.5 Mhz to 1660.5 Mhz & 1668 Mhz to 1675 Mhz RX: 1518 - 1559 Mhz RF: Detect = 1626.5 - 1675 Mhz GNSS: 1575-1608 (GPS : 1575, GLONASS: 1592-1608)
Main Interface connector	50 PIN board to board connector: - 5.5v power in (5.25 - 5.75VDC) - GPIO - UART (Tx/Rx) 4800, 9600, 19200, 38400 baud for NMEA data input - Ethernet (2x RX , 2x TX (1.8 VDC) and 2x LED (3,3 VDC)) (10/100 Full duplex) - USIM
RF power and FEM interface	30 PIN board to board connector
Performance	
Background and Streaming IP	Up to 492kbps background and 650kbps streaming
Standards	
Certifications (Planned)	FCC (shall be approved to CFR47 parts 2, 15, and 25); CSA (Canada); CE; RoHS

Examples of Products and Services Supported

> BGAN (Land)

- Enables solutions to be integrated with BGAN connectivity, enabling bespoke and lower-cost terminals

> BGAN M2M (Fixed or Mobile use)

- BGAN terminals designed specifically for M2M, including free firmware upgrades and access to the BGAN M2M remote management APIs
- BRM integration expected to enable smaller, lower-cost fixed and mobile BGAN M2M terminals, and enable VAMs with no experience of Inmarsat or BGAN to build integrated BGAN solutions tailored to the M2M market

> FleetBroadband (Maritime)

- Smaller, lighter terminals for small vessels
- Integration of BGAN into bridge, crew or passenger solutions

> SwiftBroadband (Aero)

- Smaller, lighter and low-cost terminals for all aircraft types
- Integration of BGAN into cockpit and passenger connectivity solutions

Development Tools

Terminal Development Kit (TDK): Enables VAMs to develop a BGAN-based product that uses the BRM core module. Documentation, e.g., ICDs; Specifications; Application Notes.

Developer Website:

for BRM development information/resources to aid information sharing and development of BRM-based BGAN User Terminals.

Engineering Support: Inmarsat Technical Support purchased by VAMs to assist with BRM development efforts.

For more information

Visit the Inmarsat Developer website
developer.inmarsat.com

inmarsat.com

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